

PHAM BA CUONG QUOC

Senior Data Scientist, Kaggle Expert

pbcquoc.github.io

github.com/pbcquoc

kaggle.com/phamquoc94

pbcquoc@gmail.com

(+84) 378 050 314



Overview

I am a highly skilled Data Scientist and Deep Learning Engineer with expertise in MLOps. With a strong ability to work independently, I have successfully delivered end-to-end projects. I possess a keen interest in deep learning, computer vision, natural language processing, and speech synthesis. Sharing knowledge is my passion, and I actively contribute to the Vietnamese open-source community through my website at pbcquoc.github.io. Additionally, I have released several deep learning libraries on my [GitHub](https://github.com) profile, including Object Detection, OCR, and Text-to-Speech and author of [VietOCR](#) (with 400+ stars)

Work Experience

Data Scientist at TIKI Corporation

10.2019 - Now

Personalization Platform

- Implemented Matrix Factorization and Glove for finding item representations used in identifying similar products and frequently bought-together items. These approaches improved the click-through rate (CTR) of many widgets in website by 5%
- Released CPython SparseDist library, which efficiently computes pairwise K-nearest neighbors of two sparse matrices, reducing both computation time and memory usage by 90%
- Built churn prediction and purchase prediction model that help us efficiently to send targeted emails and coupons
- Built a demand forecast model that helps us reduce cost for setting up marketing campaigns
- Built and maintained data pipelines and machine learning pipelines using Airflow and GCP

Machine Learning Engineer at EcoIT, a startup

06.2019 – 6.2021

Optical Character Recognition (OCR)

- Proposed and developed a new methodology for handling OCR of scanned and photo documents
- Built a lightweight solution using Mobilenet, DistillLayoutXML, Attention Mechanisms, PicoDet which is fast and accuracy for multiple challenges
- Released a library for Text Recognition, Text Detection, Table Structure Recognition, Table Detection, Key Information Extraction and Relation Extraction, Image Rectification
- Provided an OCR solution for ID cards, driver's licenses, and medical records which are used by government and banks
- Improved Tacotron2, a Text2Speech model, by proposing new techniques to handle repeated and skipped words
- Led a team through data collection, model selection and production deployment

Lecture at Nordic Coder

10.2019 - 10.2020

Data Analytics Teacher (Part-time)

- Taught Data Analytics to economics students, focusing on essential topics such as Python, Probability, A/B testing, and proper data analysis techniques.
- Assisted students in gaining a comprehensive understanding of these subjects and developing the skills to analyze data accurately and diligently.

Lecture at VietAI, Non-profit Organization

10.2018 - 7.2019

Machine Learning Teacher (Part-time)

- Taught Deep Learning to Vietnamese students, covering topics such as CNN, LSTM, and Attention Mechanism specifically for Machine Translation.
- Prepared learning material and exams

Data Scientist at Zalo Group, VNG Corporation

09.2017 – 09.2019

Social Network

- Handcraft engineering and built Logistic Regression for relationship classification and community detection for expanding relations
- Collected data in graph with 80 million nodes and 16 billion edges using ApacheSpark

Data Scientist at PayTV, FPT Telecom

07.2016 – 09.2017

Movie Recommendation System

- Implemented matrix factorization using SVD for content-based suggestions and implicit matrix factorization for collaborative filtering suggestions
- Reduced inference speed by 80% by caching suggested items

Music recommendation System

- Proposed deep learning model for learning song representation using Generative Adversarial Networks and utilized the most similar vectors to suggest 'Next Song for You'.

Education

Bachelor of Science - Honor Program **Ho Chi Minh City University of Science** **2012-2016**

The best thesis award

Implemented a novel model for generating image descriptions by combining two highly successful deep learning models in the fields of Computer Vision and Natural Language Processing: Convolutional Neural Networks (CNNs) and Long Short-Term Memory (LSTM) networks. This association allows our model to effectively capture visual features from images and generate coherent and descriptive textual captions.

Academic Activity

Deep Learning Research - Ho Chi Minh City University of Science **2015-2016**

Research

Dived deeper into the topic of Supervised Learning based on Bengio's book. Our study encompassed various aspects, including mathematics optimization, gaining a comprehensive understanding of deep learning principles, and conducting experiments to explore the characteristics of deep learning models.

Blog & Github

I try to share my knowledge as much as possible to help beginners to learn about AI

Nhận Dạng Chữ Tiếng Việt - Vietnamese OCR

[@pbcquoc/vietnamese_ocr](#)

Tìm Hiểu Mô Hình YOLO Cho Bài Toán Object Detection - Understanding YOLO

[@pbcquoc/yolo](#)

Tìm Hiểu và Áp Dụng Cơ Chế Attention - Understanding Attention Mechanism

[@pbcquoc/attention_tutorial](#)

Tìm Hiểu Convolutional Neural Networks Cho Phân Loại Ảnh - Understanding CNN

[@pbcquoc/cnn](#)

Huấn luyện mô hình CRNN cho nhận dạng chữ viết tay Tiếng Việt - How to train your dragon.

[@pbcquoc/crnn](#)

Achievement

2016	The Best Thesis, Ho Chi Minh City University of Science
2017	Top 1 Zalo Hackathon, We build chatbot for selling product
2018	Top 4 Entropy, Data Analytics Competition Top 2 Zalo AI Challenge, The First AI Competition in Viet Nam Top 1 Cinnamon Hackathon, Vietnamese Optical Character Recognition

Skill

Base Knowledge	Deep Learning, Machine Learning, Computer Vision, Natural Language Processing, Computer Science, Data Analysis, Statistics, Objection Detection, OCR, Speech2Text, Text2Speech, Data Scraping
Programming	Python, Cuda C/C++, MATLAB, Lua, Java, HTML/CSS, Javascript, C/C++, C#, Reactjs
Libraries	Tensorflow, Theano, Pytorch, Torch7, Scikit-Learn, Pandas, Numpy,

Spark, Hadoop, GCP

DevOps

Docker, GCP, CI/CD, Airflow, Kubernetes, Github, API, ETL

Languages

English (IELTS 6.0)
